

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application No. : 10/559,655 Confirmation No. : 5590
First Named Inventor : Dipl.-Phys. Klaus WOLTER
Filed : December 06, 2005
TC/A.U. : 3644
Examiner : Brian M. O'Hara
Docket No. : 102167.57012US
Title : Method for Supporting a Propelled Flying Object During Take-Off
and/or Landing

APPEAL BRIEF

Mail Stop Appeal Brief-Patents

Commissioner for Patents
P.O. Box 1450
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Sir:

On February 15, 2011, Appellant appealed to the Board of Patent Appeals from the final rejection of claims 46-68. The following is Appellant's Appeal Brief submitted pursuant to 37 C.F.R. § 41.37.

I. REAL PARTY IN INTEREST

The real party in interest is Klaus Wolter.

II. RELATED APPEALS AND INTERFERENCES

Appellant is not aware of any appeals, interferences, or other proceedings that may be related to, directly affect, or be directly affected by or have a bearing on the Board's decision in the pending appeal.

III. STATUS OF CLAIMS

Claims 46-68 remain pending and are the subject of this appeal. Claims 1-45 have been cancelled.

IV. STATUS OF AMENDMENTS

No amendments were filed after the final Office Action.

V. SUMMARY OF CLAIMED SUBJECT MATTER

Independent claim 46 is directed to a method for assisting the landing and/or takeoff of a powered flying object. FIG. 2; ¶¶ [0007], [0044]-[0054]. According to the method, stationary-generated fluid current having a certain specific density is provided relative to a landing and/or takeoff area in order to introduce energy into the flying object. ¶¶ [0021], [0045]. Information on the flying object is detected and the provided fluid current is enriched in response to the detected information by at least one substance of higher specific density to increase its deceleration effect and/or its acceleration effect, respectively. ¶¶ [0045]-[0054]. By adding water droplets, for example, into the generated fluid current, the efficiency of the air current is increased.

Independent claim 54 is directed to an apparatus for assisting the landing and/or takeoff of a powered flying object. FIG. 1; ¶¶ [0008], [0044]-[0054]. The apparatus includes at least one stationary fluid current generator related to a landing and/or a takeoff area, which is designed to provide a fluid current in order to introduce energy into a flying object. ¶¶ [0008], [0016]. The apparatus further includes a substance supply unit 13 and a control device 14. FIG. 1. The substance supply unit 13 enriches the provided fluid current by at least one additional substance to increase its deceleration effect and/or its acceleration effect, respectively, the additional substance having a higher specific density than the provided fluid current. ¶¶ [0015], [0021], [0041]-[0042], [0045], [0048]-[0049]. The control device 14 is configured to detect information on the flying object and to cause the substance supply unit to enrich the provided fluid current by the at least one additional substance in response to the detected information. ¶¶ [0042]-[0054].

VI. GROUND OF REJECTION TO BE REVIEWED ON APPEAL

1. The rejection of claims 46-56, 59, 60, and 62-68 under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 3,771,747 to Mednikow (the “Mednikow patent”).

2. The rejection of claims 57, 58, and 61 under 35 U.S.C. § 103(a) as being unpatentable over the Mednikow patent in view of U.S. Patent No. 3,196,822 to Bertin *et al.* (the “Bertin patent”).

VII. ARGUMENT

The rejections of claims 46-68 should be withdrawn because the Mednikow patent does not expressly or inherently disclose all of the limitations of independent claims 46 and 54. Further, the rejection of claims 65-68 should be withdrawn, because the Mednikow patent does not expressly or inherently disclose all of their limitations. Additionally, the rejection of claim 58 should be withdrawn because the Mednikow and Bertin patents do not teach or suggest the limitations of this claim.

A. Rejection under 35 U.S.C. § 102(b) over the Mednikow patent

1. Claims 46-56, 59, 60, and 62-64

a. The Mednikow Patent Does Not Enrich the Provided Fluid Current

The Mednikow patent does not expressly or inherently disclose “enriching the provided fluid current in response to the detected information by at least one substance of higher specific density to increase its deceleration effect and/or its acceleration effect, respectively,” as claimed in independent claim 46. Instead, it describes that its invention includes “two or more conventional or desired radar transmitters or receivers located on opposite sides of the movable landing strip(s) such that the optimum speed(s) of the moving surface(s) and the optimum direction and intensities of air currents may be automatically calculated by preferably an interconnected computer and the computer automatically and/or

operator manually may initiate the movements, directions, and intensities.”¹ In the context of Mednikow’s disclosure, the moving surfaces and air currents only refer to the belts, rollers, blowers and baffles used to produce and direct the air currents as an aircraft approaches.² There is no disclosure that the moving surfaces or air currents relate to the fire extinguishers.

The Office Action asserts that Mednikow’s fire extinguishers 7 enrich the provided fluid current,³ but the Office Action has provided no support for this assertion. Although column 3, line 25, of the reference is mentioned, this excerpt does not explicitly or implicitly describe fire extinguishers. It only states that an operator may manually initiate movements (of the moving surfaces).

The Advisory Action states that in col. 3, lines 33-34, the Mednikow patent teaches an automatic control system that includes fire extinguishers. The cited excerpt, however, only discloses that the radar transmitter and/or electric eye may be *mounted on or adjacent to* a fire extinguisher. It does not disclose any kind of *control* of the fire extinguisher. The Mednikow patent also mentions the presence of fire extinguishers 7 in col. 4, lines 38-39, but this disclosure also fails to describe any kind of *control* of the fire extinguishers. There are no other references to the fire extinguishers in the Mednikow patent. Thus, *Mednikow’s device may include fire extinguishers, but there is no explicit or implicit disclosure that the fire extinguishers are configured such that they enrich the provided fluid current.*

In fact, the concept employed by the Mednikow patent is quite different from that of the present invention. Instead of disclosing a device in which the contents of fire extinguishers (or any other substance) are used to enrich the provided fluid current, the Mednikow patent discloses a device in which the surroundings of an aircraft are modified to

¹ Col. 3, lines 18-26.

² See, e.g., col. 2, lines 1-30.

³ Page 2, numbered paragraph 2, lines 9-14.

increase the amount of *air* passing over the aircraft. Specifically, the device includes a series of consecutive moving surfaces (*e.g.*, belts and rollers), the speed of which is changed when the aircraft is landing or taking off to achieve the effect of having more *air* pass over the aircraft.⁴ The above-described blowers and baffles are used to control the air flow. In other words, instead of enriching the provided fluid current, the Mednikow patent discloses a device that increases the amount of air passing over the aircraft.

In view of the foregoing, it is clear that Mednikow's disclosure does not provide support for the interpretation that the fire extinguishers perform the act of enriching the provided fluid current.

b. The Mednikow Patent Does Not Enrich the Provided Fluid Current in Response to Detected Information

The Advisory Action states that the Mednikow patent "implicitly describes a system which is capable of detecting whether a flying object is in need of fire extinguishing fluids and then applying the fire extinguishing fluids during a take-off or landing."⁵ Appellant submits that this statement is not supported by the Mednikow patent. Although the reference discloses that its device may include fire extinguishers, it does not include any description of how the fire extinguishers are controlled or how they are used.

In contrast to the extremely limited disclosures relating to fire extinguishers, the Mednikow patent provides a detailed description of the control of the belts, rollers, blowers, and baffles of its device to direct air currents toward approaching aircraft.⁶ In particular, the reference describes the use of radar transmitters/receivers to control the speed and movement

⁴ Col. 2, lines 1-16.

⁵ Continuation sheet, lines 4-6.

⁶ See col. 2, *et seq.*

of the belts, rollers, blowers and baffles, respectively.⁷ The discussion of controlling the air currents, however, fails to include *any* discussion of the fire extinguishers.

Due to the absence of a disclosure of how the fire extinguishers are used in Mednikow's device, the only supportable interpretation of the reference is that the fire extinguishers are used to put out aircraft fires. There simply is no support in the Mednikow patent for the assumption that the fire extinguishers enrich the provided fluid current in response to detected information. In fact, with regard to fire extinguishers, the disclosure of the Mednikow patent is limited to the idea that they can be present in the device.

c. The Mednikow Patent Does Not Enrich the Provided Fluid Current by a Substance of Higher Specific Density

As described above, the Mednikow patent only discloses a device in which the *amount* of provided fluid current is increased with the air being blown by the blowers having the *same specific density* as the provided fluid current, by *increasing the amount of air* passing over the aircraft via belts, rollers, blowers and baffles. Accordingly, it does not disclose *enriching* the provided fluid current by a substance of a *higher specific density*.

The Advisory Action asserts that the fire extinguishers must use substances that are more dense than air,⁸ but, as described above, the fire extinguishers disclosed by the Mednikow patent do not perform the act of enriching the provided fluid current. Moreover, there is no support for the *assumption* that the contents of the fire extinguishers are more dense than air.

Appellant submits that claim 46 is patentable over the Mednikow patent for the above-described reasons.

Independent claim 54 is patentable for reasons analogous to those for claim 46.

⁷ Col. 3, lines 17-26.

⁸ Continuation sheet, lines 9-10.

Claims 47-53, 55, 56, 59, 60, and 62-68 are patentable for at least the same reasons as independent claims 46 and 54.

2. Claims 65-68

As discussed above, claims 65-68 are patentable over the Mednikow patent due to their dependence from one of claims 46 and 54. These claims are further patentable because the reference does not expressly or inherently disclose their limitations.

Regarding claims 65 and 67, the Mednikow patent does not disclose any determination of whether enriching the air current provided by the blowers is needed to achieve a required acceleration or deceleration effect. In fact, the Office Action has not pointed to any portion of the reference as allegedly disclosing this feature of the claims. Instead, the Office Action has made an unsupported assertion that the Mednikow patent discloses it.

Likewise, the Office Action has provided no support for its assertion that the Mednikow patent discloses the features of claims 66 and 68 relating to the detection of speed, height, weight, or shape information of the flying object. As recited in independent claims 46 and 54, the provided fluid current is enriched in response to this detected information. Although the Mednikow patent discloses the use of radar to determine aircraft speed, it does not disclose *using this speed information to enrich the provided fluid current by at least one substance of higher specific density* to increase its deceleration effect and/or its acceleration effect, respectively.

B. Rejection under 35 U.S.C. § 103(a) over the Mednikow and Bertin Patents

Claims 57, 58, and 61 are patentable over the combination of the Mednikow and Bertin patents as the Bertin patent does not disclose or suggest the subject matter of independent claim 54 not disclosed in the Mednikow patent.

Claim 58 is further patentable over the combination because the cited references do not teach or suggest the limitations of this claim. The Office Action acknowledges that the Mednikow patent does not disclose the feature of claim 58 that “a cooling element for cooling down the fluid current is provided” (in the apparatus of claim 54).

The Office Action⁹ asserts that the Bertin patent discloses this feature, but it has not provided any support for this assertion. Implicitly acknowledging the lack of disclosure of a cooling element, the Office Action states that a cooling element would have been obvious in view of the heat exchanger disclosed by Bertin.¹⁰ The purpose of the heat exchanger in Bertin, however, is to reduce the relative humidity of a gas.¹¹ This effect cannot be achieved by cooling an airstream. Thus, the cooling element of claim 58 is neither taught nor suggested by the Bertin patent.

VIII. CONCLUSION

For the foregoing reasons, it is respectfully submitted that the rejections of Appellant’s claims 46-68 are improper, and therefore, these grounds of rejection should be reversed.

⁹ Page 5.

¹⁰ *Id.*

¹¹ Col. 4, lines 22-43.

The Appeal Brief is being submitted with the required fee of \$270.00. This amount is believed to be correct, however, the Commissioner is hereby authorized to charge any deficiency, or credit any overpayment, to Deposit Account No. 05-1323, Docket No. 102167.57012US.

Respectfully submitted,

April 15, 2011

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CLAIMS APPENDIX

1-45. (Cancelled).

46. Method for assisting the landing and/or takeoff of a powered flying object, said method comprising providing a relative to a landing and/or takeoff area stationary-generated fluid current, in order to introduce energy into the flying object, wherein the fluid current provided has a certain specific density, and detecting information on the flying object, and enriching the provided fluid current in response to the detected information by at least one substance of higher specific density to increase its deceleration effect and/or its acceleration effect, respectively.

47. Method according to Claim 46, wherein the direction of the fluid current is adjusted depending on the situation.

48. Method according to Claim 46, wherein the value of at least one further physical parameter of the fluid current is adjusted depending on the situation.

49. Method according to Claim 48, wherein the at least one physical parameter comprises at least one of the following parameters: temperature of the fluid current, velocity of the fluid current, homogeneity of the fluid current and laminarity rate of the fluid current.

50. Method according to Claim 46, wherein a fire-extinguishing agent is introduced into the fluid current provided.

51. Method according to Claim 46, wherein the fluid current provided is a wind generated artificially from the existing atmosphere.

52. Method according to Claim 46, wherein to assist the landing of a flying object firstly a fluid current is provided, which is capable of decelerating the flying object, and then a fluid current is provided, which is capable of lowering the flying object from a hovering position onto the landing area.

53. Method according to Claim 46, wherein to assist the takeoff of a flying object firstly a fluid current is provided, which is capable of lifting the flying object from the takeoff area to a hovering position and then a fluid current is provided, which is capable of accelerating the flying object in a desired direction.

54. Apparatus for assisting the landing and/or takeoff of a powered flying object, comprising:

at least one, related to a landing and/or a takeoff area, stationary fluid current generator, which is designed to provide a fluid current in order to introduce energy into a flying object;

a substance supply unit designed to enrich the provided fluid current by at least one additional substance to increase its deceleration effect and/or its acceleration effect, respectively, the additional substance having a higher specific density than the provided fluid current; and

a control device configured to detect information on the flying object and configured to cause the substance supply unit to enrich the provided fluid current by the at least one additional substance in response to the detected information.

55. Apparatus according to Claim 54, wherein the fluid current provided by the fluid current generator can be adjusted.

56. Apparatus according to Claim 54, wherein the fluid current generator is designed so as to vary the value of at least one further physical parameter of the fluid current provided.

57. Apparatus according to Claim 54, wherein a heating element for heating up the fluid current is provided.

58. Apparatus according to Claim 54, wherein a cooling element for cooling down the fluid current is provided.

59. Apparatus according to Claim 54, wherein a fire-extinguishing agent supply unit for introducing a fire-extinguishing agent into the fluid current is provided.

60. Apparatus according to Claim 54, wherein the at least one fluid current generator comprises at least one blower.

61. Apparatus according to Claim 59, wherein the at least one blower comprises at least one turbofan.

62. Apparatus according to Claim 54, wherein the at least one fluid current generator is designed so as to provide as fluid current a wind artificially generated from the existing atmosphere.

63. Apparatus according to Claim 54, further comprising a control device for determining the optimum value of at least one parameter of the fluid current being provided by the at least one fluid current generator and for adjusting this at least one parameter value.

64. Apparatus according to Claim 56, wherein the at least one parameter comprises at least one of the following parameters: direction of the fluid current, temperature of the fluid current, velocity of the fluid current, homogeneity of the fluid current and laminarity rate of the fluid current.

65. Method according to Claim 46, wherein the method further comprising determining based on the detected information whether enriching the provided fluid current is necessary in order to achieve a required deceleration effect or acceleration effect, wherein enriching the provided fluid current in response to the detected information by at least one substance of higher specific density comprises enriching the provided fluid current by at least one substance of higher specific density if determined to be necessary.

66. Method according to Claim 46, wherein the information on the flying object comprises information on at least one of:

a speed of the flying object;

- a height of the flying object;
- a weight of the flying object; and
- a shape of the flying object.

67. Apparatus according to Claim 54, wherein the control device is further configured to determine based on the detected information whether enriching the provided fluid current is necessary in order to achieve a required deceleration effect or acceleration effect, and wherein the control device is configured to cause the substance supply unit to enrich the provided fluid current by the at least one additional substance if determined to be necessary.

68. Apparatus according to Claim 54, wherein the information on the flying object comprises information on at least one of:

- a speed of the flying object;
- a height of the flying object;
- a weight of the flying object; and
- a shape of the flying object.

EVIDENCE APPENDIX

None.

RELATED PROCEEDINGS APPENDIX

None.